

AMENDMENTS TO THE CLAIMS

For the convenience of the Examiner, all claims have been presented whether or not an amendment has been made. The claims have been amended as follows:

1. **(Canceled)**
2. **(Canceled)**
3. **(Canceled)**
4. **(Canceled)**
5. **(Canceled)**
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19. **(Canceled)**

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21. **(Canceled)**

22. **(Canceled)**

23. **(Canceled)**

24. **(Canceled)**

25. **(Canceled)**

26. **(Canceled)**

27. **(Canceled)**

28. **(Canceled)**

29. **(Canceled)**

30. **(Canceled)**

31. (New) A method of communicating information, comprising:

at a first client, forming a first encapsulated point-to-point protocol data unit by appending a network address request header to a point-to-point protocol data unit, wherein the point-to-point protocol data unit comprises a header including an identifier associated with a second client and a payload comprising information to be communicated to the second client;

at a tunneling server, receiving the encapsulated point-to-point protocol data unit, removing the network address request header, and appending to the header of the point-to-point protocol data unit a network address response header to form a second encapsulated point-to-point protocol data unit; and

communicating the second encapsulated point-to-point protocol data unit for receipt by the second client.

32. (New) The method of Claim 31, wherein the network address request header comprises a Dynamic Host Configuration Protocol DISCOVER header or a Bootstrap Protocol REQUEST header.

33. (New) The method of Claim 31, wherein the network address response header comprises a Dynamic Host Configuration Protocol OFFER header or a Bootstrap Protocol RESPONSE header.

34. (New) The method of Claim 31, wherein the header of the point-to-point protocol data unit comprises a tunneling header appended to the point-to-point protocol data unit, the tunneling header operable to facilitate maintenance of a tunneling session between the tunneling server and the first client.

35. (New) The method of Claim 34, wherein the tunneling header comprises a tunneling header selected from the group consisting of a Layer Two Tunneling Protocol (L2TP) header, a Point to Point Tunneling Protocol (PPTP), or a Layer Two Forwarding (L2F) header.

36. **(New)** A method of communicating in an enterprise network, comprising:
at a tunneling server, receiving from a first client an encapsulated point-to-point protocol data unit comprising a first header that includes an identifier associated with a second client, a payload comprising information to be communicated to the second client, and a network address request header appended to the first header;
appending a network address response header to the point-to-point protocol data unit;
and
communicating the point-to-point protocol data unit with the appended network address response header toward the second client.

37. **(New)** The method of Claim 36, wherein the network address request header comprises a Dynamic Host Configuration Protocol DISCOVER header or a Bootstrap Protocol REQUEST header.

38. **(New)** The method of Claim 36, wherein the network address response header comprises a Dynamic Host Configuration Protocol OFFER header or a Bootstrap Protocol RESPONSE header.

39. **(New)** The method of Claim 36, wherein the first header comprises a tunneling header appended to the point-to-point protocol data unit, the tunneling header operable to facilitate maintenance of a tunneling session between the tunneling server and the first client.

40. **(New)** The method of Claim 39, wherein the tunneling header comprises a tunneling header selected from the group consisting of a Layer Two Tunneling Protocol (L2TP) header, a Point to Point Tunneling Protocol (PPTP), or a Layer Two Forwarding (L2F) header.

41. **(New)** The method of Claim 36, wherein the first header comprises a tunneling header appended to the point-to-point protocol data unit, the tunneling header operable to facilitate maintenance of a tunneling session between the tunneling server and the second client.

42. (New) The method of Claim 36, wherein communicating the point-to-point protocol data unit with the appended network address response header toward the second client comprises communicating the point-to-point protocol data unit with the appended network address response header toward a router operable to relay the point-to-point protocol data unit with the appended network address response header toward the second client without referencing a routing table indexed by data channel addresses.

43. (New) The method of Claim 42, wherein the identifier comprises a control channel address identifying the second client, the control channel address being different than any data channel address recognized by the router.

44. (New) The method of Claim 36, wherein the identifier comprises an identifier of the second client other than a control channel address, and further comprising accessing a memory to determine, based on the identifier, a control channel address of the second client.

45. (New) The method of Claim 36, wherein the point-to-point protocol data unit comprises information to be applied to an application residing at the second client.

46. (New) The method of Claim 45, wherein the application residing at the second client comprises a maintenance application operable to diagnose operational characteristics of the second client.

47. (New) The method of Claim 36, wherein the point-to-point protocol data unit comprises at least a portion of an application to be installed on the second client.

48. (New) The method of Claim 36, further comprising removing the network address request header appended to the first header before appending the network address response header to the point-to-point protocol data unit, the network address response header appended to the first header of the point-to-point protocol data unit.

49. (New) A computer readable medium operable to execute the following steps on a processor of a computer:

at a tunneling server, receiving from a first client an encapsulated point-to-point protocol data unit comprising a first header that includes an identifier associated with a second client, a payload comprising information to be communicated to the second client, and a network address request header appended to the first header;

appending a network address response header to the point-to-point protocol data unit; and

communicating the point-to-point protocol data unit with the appended network address response header toward the second client.

50. (New) The computer readable medium of Claim 49, wherein the first header comprises a tunneling header appended to the point-to-point protocol data unit, the tunneling header operable to facilitate maintenance of a tunneling session between the tunneling server and the first client.

51. (New) The computer readable medium of Claim 49, wherein the first header comprises a tunneling header appended to the point-to-point protocol data unit, the tunneling header operable to facilitate maintenance of a tunneling session between the tunneling server and the second client.

52. (New) The computer readable medium of Claim 49, wherein communicating the point-to-point signal with the network address response header toward the second client comprises communicating the point-to-point signal with the network address response header toward a router operable to relay the point-to-point signal with the network address response header to the second client without referencing a routing table indexed by data channel addresses.

53. (New) The computer readable medium of Claim 52, wherein the point-to-point protocol data unit comprises a control channel address identifying the second client, the control channel address being different than any data channel address recognized by the router.

54. **(New)** The computer readable medium of Claim 49, wherein the first identifier comprises an identifier other than a control channel address of the second client, and further comprising accessing a memory to determine, based on the identifier, a control channel address of the second client.

55. **(New)** The computer readable medium of Claim 49, wherein the point-to-point protocol data unit comprises information to be applied to an application residing at the destination client.

56. **(New)** The computer readable medium of Claim 49, wherein the point-to-point protocol data unit comprises at least a portion of an application to be installed on the second client.

57. **(New)** The computer readable medium of Claim 49, further operable to execute a step to remove the network address request header appended to the first header before appending the network address response header to the point-to-point protocol data unit, the network address response header appended to the first header of the point-to-point protocol data unit.

58. **(New)** In an enterprise network comprising at least one client coupled to a tunneling server, a tunneling server comprising:

a tunneling module operable to receive a first point-to-point protocol data unit encapsulated within a network address request header; and

a protocol stack operable to process at least a portion of the first point-to-point protocol data unit to identify a control channel address associated with a destination client;

wherein the tunneling module is further operable to encapsulate the first point-to-point protocol data unit within a network address response header and wherein the tunneling server is operable to communicate the encapsulated point-to-point data unit toward the destination client.

59. (New) The tunneling server of Claim 58, wherein the network address request header comprises a Dynamic Host Configuration Protocol DISCOVER header or a Bootstrap Protocol REQUEST header.

60. (New) The tunneling server of Claim 58, wherein the network address response header comprises a Dynamic Host Configuration Protocol OFFER header or a Bootstrap Protocol response header.

61. (New) The tunneling server of Claim 58, wherein the first point-to-point protocol data unit comprises a control channel address identifying the destination client, and wherein the tunneling server is further operable to communicate the encapsulated point-to-point protocol data unit toward a router for forwarding to the destination client without reference to a routing table indexed by data channel addresses.

62. (New) The tunneling server of Claim 58, wherein the first point-to-point protocol signal is encapsulated within a tunneling header and further encapsulated within the network address request header, and wherein the tunneling module is operable to process the tunneling header to maintain a tunneling session between the tunneling server and a client originating the first point-to-point protocol data unit.

63. (New) The tunneling server of Claim 62, wherein the tunneling header comprises a tunneling header selected from the group consisting of a Layer Two Tunneling Protocol (L2TP) header, a Point to Point Tunneling Protocol (PPTP), or a Layer Two Forwarding (L2F) header.

64. (New) The tunneling server of Claim 58, wherein the tunneling module is operable to encapsulate the first point-to-point protocol data unit within a tunneling header before encapsulating the first point-to-point protocol data unit within the network address response header, the tunneling header operable to facilitate maintenance of a tunneling session between the tunneling server and the destination client.

65. (New) The tunneling server of Claim 58, wherein the point-to-point protocol data unit comprises a payload comprising information to be applied to an application residing at the destination client.

66. (New) The tunneling server of Claim 65, wherein the payload comprises information to be applied to a maintenance application residing at the destination client and operable to diagnose operational characteristics of the destination client.

67. (New) A system operable to facilitate communication with a destination client in an enterprise network, the system comprising:

a first client comprising:

a protocol stack operable to generate a first point-to-point protocol data unit;

and

a tunneling module operable to encapsulate the first point-to-point data unit within a network address request header to form a first encapsulated signal;

wherein the first client is operable to communicate the first encapsulated signal toward a tunneling server; and

a tunneling server comprising:

a tunneling module operable to receive the first encapsulated signal; and

a protocol stack operable to process at least a portion of the first point-to-point protocol signal to identify a control channel address associated with a destination client;

wherein the tunneling module is further operable to encapsulate the first point-to-point protocol signal within a network address response header to form a second encapsulated signal and wherein the tunneling server is operable to communicate the second encapsulated signal toward the destination client.